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AIR-C98-4/63-RP

OPERATIONAL CAPABILITIES OF COMMUNITY
FALLOUT SHELTER SYSTEMS

EVALUATION INSTRUMENT

William D. Shontz
Mary B. Willis
David Angell

April 1963

SEP 10 1969

Office of Civil Defense
Department of Defense

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AMERICAN INSTITUTE for RESEARCH
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Prepared by

AMERICAN INSTITUTE FOR RESEARCH
Peninsula Office
San Mateo, California

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This Final Report and its accompanying working documents, the Evaluation Instrument, Instruction Manual for the Evaluation Instrument, and Workbook For Use By Local Civil Defense Officials, have been reviewed in the Office of Civil Defense and approved for publication and limited distribution for purposes of OCD research, shelter planning, and guidance material development. Contents of these documents do not necessarily reflect the views and policies of the Office of Civil Defense.

'NOTICE:

The contents of this document reflects material in the civil defense literature and in OCD releases cited in the Final Report for Contract No. OCD-OS-62-170: Operational Capabilities of Community Fallout Shelter Systems. Because of the dynamic nature of CD research, much of the information contained herein is subject to change. This document should, therefore, be treated as a working draft representing a proposed approach to evaluation of the development of community shelter systems.

Any updating of the material in this instrument, however, should conform to the restrictions outlined in the Final Report if the present scoring method is to remain meaningful.

CAUTION

Do not attempt to use this Evaluation
Instrument until you have carefully
studied the Instruction Manual which
accompanies it.

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EVALUATION OF

Community _____

Population _____

Shelter Information:

<u>Type</u>	<u>Capacity</u>	<u>Number</u>
-------------	-----------------	---------------

Stage of System Development:

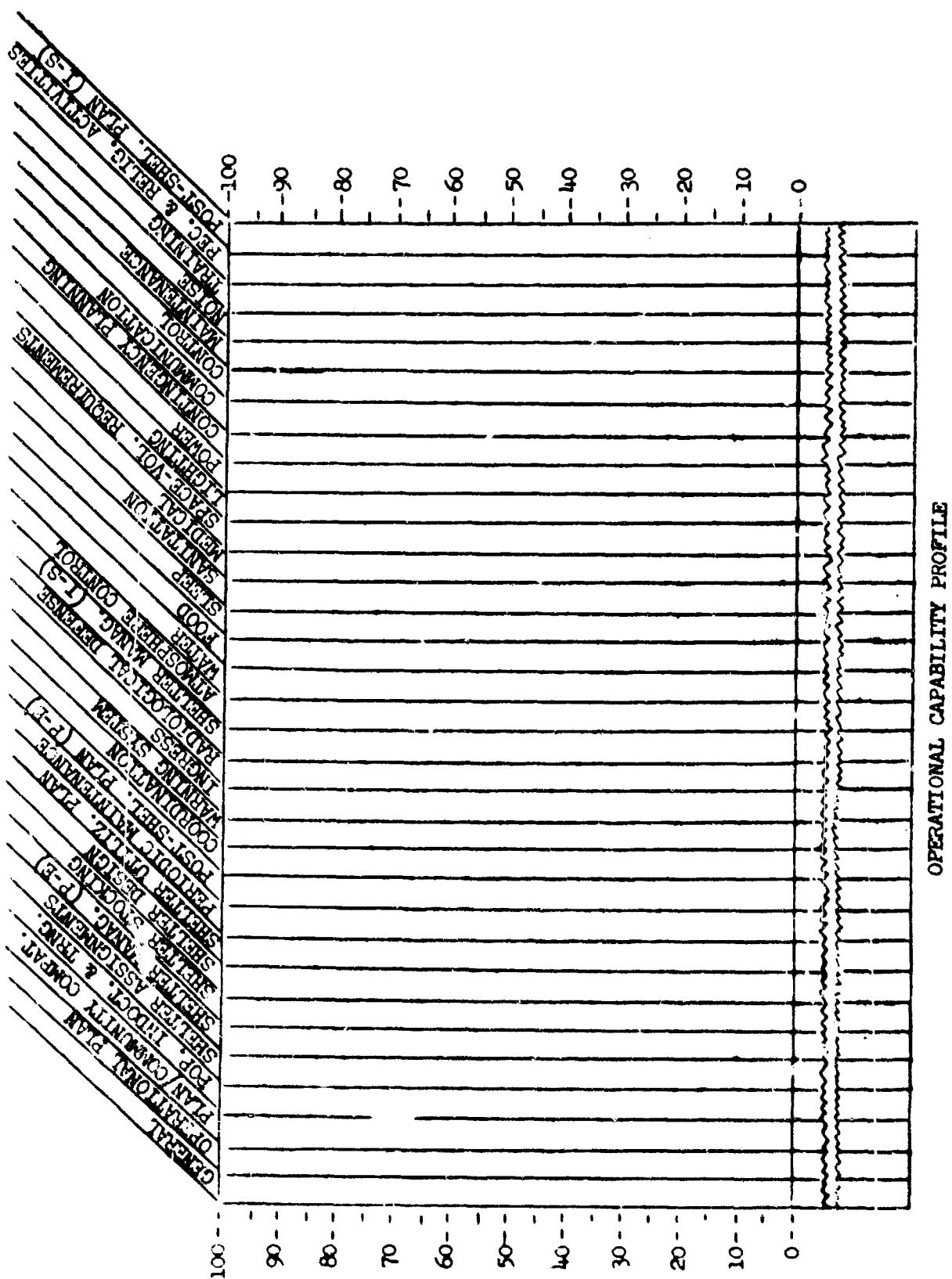
- Preliminary Planning
- Detailed Planning
- Developmental
- Operational

Evaluated by _____

Position _____

COMPUTATION SHEET

CATEGORY	COMPUTE		
	Maximum Score	Category Total	Converted Score
GENERAL	100	-	= _____
OPERATIONAL PLAN	100	-	= _____
PLAN/COMMUNITY COMPATIBILITY	100	-	= _____
POPULATION INDOCTRINATION AND TRAINING	100	-	= _____
SHELTER ASSIGNMENTS	100	-	= _____
SHELTER MANAGEMENT (Pre-Emergency)	100	-	= _____
SHELTER STOCKING	100	-	= _____
SHELTER DESIGN	100	-	= _____
SHELTER UTILIZATION PLAN	100	-	= _____
PERIODIC MAINTENANCE	100	-	= _____
POST-SHELTER PLANNING (Pre-Emergency)	100	-	= _____
COORDINATION	100	-	= _____
WARNING SYSTEM	100	-	= _____
INGRESS	100	-	= _____
RADIOLOGICAL DEFENSE	100	-	= _____
SHELTER MANAGEMENT (In-Shelter)	100	-	= _____
ATMOSPHERE CONTROL	100	-	= _____
WATER	100	-	= _____
FOOD	100	-	= _____
SLEEP	100	-	= _____
SANITATION	100	-	= _____
MEDICAL	100	-	= _____
SPACE-VOLUME REQUIREMENTS	100	-	= _____
LIGHTING	100	-	= _____
POWER SUPPLY	100	-	= _____
CONTINGENCY PLANNING	100	-	= _____
COMMUNICATION	100	-	= _____
CONTROL	100	-	= _____
MAINTENANCE	100	-	= _____
NOISE	100	-	= _____
TRAINING	100	-	= _____
RECREATION AND RELIGIOUS ACTIVITIES	100	-	= _____
POST-SHELTER PLANNING (In-Shelter)	100	-	= _____



When marking the Evaluation Instrument booklet, remember--

IF THE PROPER RESPONSE TO THE ITEM IS "NOT APPLICABLE," CIRCLE N/A OPPOSITE THE ITEM ON THE RIGHT HAND SIDE OF THE PAGE.

N/A Y 32

IF THE PROPER RESPONSE TO THE ITEM IS "YES," CIRCLE Y OPPOSITE THE ITEM ON THE RIGHT HAND SIDE OF THE PAGE.

N/A (Y) 16

IF THE PROPER RESPONSE TO THE ITEM IS "NO," CIRCLE THE NUMBER OPPOSITE THE ITEM ON THE RIGHT HAND SIDE OF THE PAGE.

N/A Y 92

GENERAL

- | | |
|--|-------------------|
| 1. If permanent and completely adequate shelter facilities are not yet available for everyone in the community, have steps been taken to provide interim shelter facilities? | N/A Y 92 |
| 2. Has an analysis of such variables as the proximity of targets, the probable priority of such targets, and the prevailing winds been conducted to determine what effects of a nuclear attack are possible? | N/A Y 53 |
| 3. Have specific assumptions been made regarding the type of effects (blast, heat, radiation) for which protection is to be afforded? | N/A Y 70 |
| 4. Has the degree of protection which is going to be provided against the effects of a nuclear attack been determined? | N/A Y 61 |
| 5. Have civil defense personnel made estimates for physical casualties caused by atomic, biological, and chemical attack, based on local data and information furnished by the Office of Civil Defense? | N/A Y 16 |
| 6. Have civil defense personnel made estimates for psychiatric casualties at the rate of one such casualty for every four physical casualties, or less? | N/A Y 2 |
| 7. Are plans for highway construction and street improvements to be coordinated with civil defense planning to enhance access to the shelters? | N/A Y 5 |
| 8. Are building codes such that it is feasible to include shelter space in new buildings? | N/A Y <u>5</u> |

CATEGORY TOTAL

OPERATIONAL PLAN

1. Is an operational plan to be written for the community shelter system?

N/A Y 61

IF THE ANSWER TO ITEM 1. IS "NO," ITEMS 2-9 MUST BE ANSWERED N/A.

2. Is legal authority for implementing the operational plan to be established?

N/A Y 39

3. Are the goals or objectives of the community's civil defense planning efforts and shelter facilities to be stated as a basis for the operational plan?

N/A Y 16

4. Is a well-defined system of distributing information regarding changes to the operational plan to be developed and implemented?

N/A Y 13

5. When distributing operational plan change information, is particular care to be taken to insure that all people affected by the changes receive the information and that they acknowledge receipt and understanding of the material?

N/A Y 10

6. Are the broad outlines of the operational plan to be circulated to everyone, while a single annex or appendix supplies the necessary details to those affected?

N/A Y 5

7. Is a definite schedule to be determined for review and updating of the operational plan?

N/A Y 10

8. Are all phases of the operational plan to be subjected to proof testing?

N/A Y 23

9. Is the administrative machinery to be set up to feed the results of the proof testing back into operational plan revision?

N/A Y 19

CATEGORY TOTAL

PLAN/COMMUNITY COMPATIBILITY

- | | | | |
|--|-----|---|-----------|
| 1. Do the types of shelters to be provided coincide with the type recognized as being needed? | N/A | Y | 92 |
| 2. Is the population density pattern of the community to be determined and such information utilized in locating the shelters? | N/A | Y | 45 |
| 3. Is day-night mobility of the population to be considered when locating shelters? | N/A | Y | 28 |
| 4. Are population density and management problems to be considered when determining shelter size? | N/A | Y | 45 |
| 5. Is the effect of transient population on the shelter system to be considered and are decisions regarding this problem to be made? | N/A | Y | 13 |
| 6. Is shelter space to be available for every resident of the community? | N/A | Y | <u>81</u> |

CATEGORY TOTAL

POPULATION INDOCTRINATION AND TRAINING

- | | | | |
|--|-----|---|-----------|
| 1. Are indoctrination and training sessions for the general population to be conducted? | N/A | Y | 23 |
| 2. Are realistic training and occupancy drills to be conducted? | N/A | Y | 13 |
| 3. Are training programs to provide for participation in assigned tasks by as many people as possible? | N/A | Y | 4 |
| 4. Is civil defense to be taught in the schools? | N/A | Y | 4 |
| 5. Is the potential shelter population to be informed as to the types of things which should and should not be brought to the shelters? | N/A | Y | 5 |
| 6. Are series of instruction to be given to people on immediate protective measures they can take to minimize personal injury from thermal and blast effects in the event of attack without warning? | N/A | Y | 16 |
| 7. Are habitability tests to be conducted in all types of shelters used? | N/A | Y | <u>16</u> |

CATEGORY TOTAL

SHELTER ASSIGNMENTS

Note: If specific shelter assignments are not to be made, mark each item N/A and go on to the next section.

- | | | | |
|--|-----|---|-----------|
| 1. Is sufficient shelter space with a protection factor of 100 or better to be available for the entire population plus allowances for transients? | N/A | Y | 53 |
| 2. Is diurnal population fluctuation to be taken into consideration when making shelter assignments? | N/A | Y | 8 |
| 3. Are shelter assignments to be reviewed and updated on a regular basis? | N/A | Y | 3 |
| 4. When applicable, are shelter assignments to be made on the basis of pre-existing organizational structures? | N/A | Y | 2 |
| 5. Are shelter assignments in residential areas to adhere to neighborhood groups as much as possible? | N/A | Y | 2 |
| 6. Can people be expected to reach their assigned shelters within the estimated warning time available? | N/A | Y | <u>70</u> |

CATEGORY TOTAL

SHELTER MANAGEMENT (Pre-Emergency)

Legal Status

- | | |
|---|----------------|
| 1. Is the local government to establish the legal status of the shelter manager and define his authority? | N/A Y 16 |
| 2. Is the legal status and authority of the shelter manager, as defined by local government, to be put in printed form along with a delineation of his responsibilities and posted in a prominent place within the shelter? | N/A Y 5 |
| 3. Is the administrative machinery for the entire shelter system to be legally defined and the necessary implementation procedures accomplished? | N/A Y 10 |

Personnel

- | | |
|--|----------------|
| 4. Are all shelters in the system to be managed by pre-selected personnel? | N/A Y 45 |
|--|----------------|

IF THE ANSWER TO ITEM 4. IS "NO," ITEMS 5-11 MUST BE ANSWERED N/A.

- | | |
|---|----------------|
| 5. Is a definite set of criteria to be developed to guide the selection of shelter management personnel? | N/A Y 13 |
| 6. Are persons already in positions of leadership in the community to be recruited for shelter manager positions? | N/A Y 6 |
| 7. Is more than one person to be selected for each shelter management job? | N/A Y 23 |
| 8. Are records to be maintained on all shelter management personnel in order to facilitate upgrading? | N/A Y 1 |
| 9. Are all members of the management cadre to be identified to the public and each one's responsibilities, duties, and authority specified? | N/A Y 6 |
| 10. Is the management structure of the shelter system to be tested through all phases of operation? | N/A Y 10 |
| 11. Are those persons designated to manage and provide services in the various shelters to be assigned to specific shelters? | N/A Y 61 |

Page Total

SHELTER MANAGEMENT (Pre-Emergency) (Contd.)

Documentation

- | | | | |
|--|-----|---|----|
| 12. Is a complete set of operating procedures and management guides to be developed and placed in each shelter, so that in the event a trained shelter manager is not present, sheltrees will not be without guidance? | N/A | Y | 53 |
| 13. Are the management guidance manuals to provide guidelines for action to be taken in the event of predictable contingencies? | N/A | Y | 28 |
| 14. Are job descriptions to be prepared for every identifiable position in the shelter management structure and are provisions to be made for insuring that these descriptions are present in each shelter? | N/A | Y | 8 |
| 15. Is a training program to be carried out for shelter management personnel? | N/A | Y | 33 |
| 16. Are members of each shelter-management cadre to be cross-trained to provide additional depth in key positions? | N/A | Y | 8 |
| 17. Are short refresher courses to be provided for maintaining the proficiency of shelter officials? | N/A | Y | 6 |
| 18. Are those people selected and trained as shelter managers to be responsible for conducting the integrating phase of their respective staffs' training? | N/A | Y | 1 |
| 19. Are realistic drills to be held on a periodic basis to test the operational readiness of shelter management personnel? | N/A | Y | 28 |
| 20. Are local physicians to be given training in the principles of mass medical care, treatment of radiation casualties, etc? | N/A | Y | 28 |
| 21. Are special advanced training programs to be established by hospitals and appropriate professional organizations to train medical aides? | N/A | Y | 19 |

Page Total

Total for Page 6 _____

Total for Page 7 _____

CATEGORY TOTAL _____

SHELTER STOCKING

Food

1. Are provisions to be made for stocking food in the shelters? N/A Y 100

IF THE ANSWER TO ITEM 1. IS "NO," ITEMS 2-7 MUST BE ANSWERED N/A.

2. Is the amount of food to be stored in each shelter to provide 1500-2000 calories per person per day for the maximum number of sheltrees expected for the anticipated length of stay? N/A Y 28
3. Is the type of food to be stocked to be selected with expected environmental conditions during storage in mind? N/A Y 39
4. Are foods with a shelf life of 5-10 years to be selected when stock is not to be rotated out of the shelters on a regular basis? N/A Y 13
5. Is the amount of water which will be available to be considered in selecting the food to be stocked in each shelter? N/A Y 19
6. Is the shelter food supply to contain items usable for feeding infants, sick, and aged? N/A Y 13
7. Is the food to be stocked such that it does not need cooking even though cooking would enhance its palatability? N/A Y 10

Medical

8. Are medical supplies to be stocked in the shelters? N/A Y 70
9. Are the medical supplies to be stocked in the shelters adequate in terms of assumptions regarding the types and number of casualties to be expected? N/A Y 53
10. Are the kinds of medical supplies to be stocked in the shelters commensurate with the level of medical competency expected to be present? N/A Y 10
11. Are medical self-help manuals to be stocked in all shelters to provide basic first-aid knowledge in the event that trained medical personnel are not present? N/A Y 53

Page Total

SHELTER STOCKING (Contd.)

Medical (Contd.)

- | | | | |
|--|-----|---|----|
| 12. As a safeguard, is there to be a minimum back-up supply of an all-purpose enteric formula for persons with acute digestive disturbances? | N/A | Y | 13 |
| 13. Are provisions to be made for including laxatives in the shelter medical supplies? | N/A | Y | 1 |
| 14. Are extra supplies of salt to be provided to combat heat stroke and fatigue? | N/A | Y | 4 |
| 15. Are extra stocks of vitamins to be provided? | N/A | Y | 1 |

Other

- | | | | |
|---|-----|---|----|
| 16. Is the amount of potable water to be stored in each shelter adequate to provide a minimum of $\frac{1}{2}$ gallon per day for the maximum number of shelterees expected for the anticipated length of stay? | N/A | Y | 81 |
| 17. Are provisions to be made for stocking clothing in the shelters to replace any shelteree's clothing which may have become contaminated en route to the shelter? | N/A | Y | 10 |
| 18. Are provisions to be made for games to be stocked in each shelter? | N/A | Y | 1 |

Page Total

Total for Page 8 _____

Total for Page 9 _____

CATEGORY TOTAL _____

SHELTER DESIGN

Blast Protection

Note: If blast protection is not an anticipated requirement for the shelter system, mark items 1-8 N/A and go on to Radiation Protection.

1. Where doors are vertical and subject to reflected pressures, are revetments to be used to strengthen door-opening areas? N/A Y 53
2. On an above-ground shelter, are barriers to be used to reduce blast effects? N/A Y 81
3. Are barriers to be used to reduce blast pressures in the access passageway? N/A Y 53
4. If the shelter structure itself is to be blast resistant, is the equipment associated with the shelter such as vent pipes, doors, storage tanks, ductwork and other blast-sensitive equipment to be designed to perform satisfactorily at the same overpressure range as the structure? N/A Y 53
5. If the shelters are to offer resistance to blast and have entranceways to existing buildings, are they to be provided with closures which will heat-isolate the shelters from the associated buildings? N/A Y 45
6. If the shelters are to offer blast protection, are they to be free of loosely-supported fixtures or other elements? N/A Y 5
7. Is piping for water and fuel tanks between the shelter and the tanks to be designed to withstand some earth displacement without breakage? N/A Y 81
8. Are openings to the atmosphere in shelters offering blast protection to be provided with appropriate devices to prevent a build-up of pressure within the shelter so that its occupants are subject to no more than 5 psi overpressure? N/A Y 70

Radiation Protection

9. Is all primary shelter space to have a protection factor of 40 or better? N/A Y 92
10. If secondary shelter space (shielded area) is to be provided, is it to have a protection factor of at least 20? N/A Y 61

Page Total

SHELTER DESIGN (Contd.)

Radiation Protection (Contd.)

- | | |
|--|----------------|
| 11. In the calculation of a shelter's protection factor, is the radiation dose coming from the entranceways, ventilation ducts or other openings in the shelter's barriers to be considered? | N/A Y 81 |
| 12. Are interior contents of the shelter area (desks, file cabinets, etc.) to be arranged so as to give further radiation protection? | N/A Y 4 |

Other

- | | |
|---|--------------------|
| 13. Are vents and exits to be placed so that they will not be covered by burning rubble? | N/A Y 33 |
| 14. Are provisions to be made to insure that the shelter interior will remain reasonably dry? | N/A Y 4 |
| 15. Is the shelter design to be flexible so that shelterees can restructure their shelter environment in accordance with the different needs and characteristics of the shelterees and in relation to different needs at different time periods of occupancy? | N/A Y 3 |
| 16. Are provisions to be made for the storing of personal property in such a way that each shelteree has a small area he can call his own? | N/A Y 1 |
| 17. Are the shelters to have natural or improvised partitions? | N/A Y 1 |
| 18. Are provisions to be made for routing of internal traffic? | N/A Y 1 |
| 19. Are provisions to be made for seating arrangements including backrests for all shelterees in the shelter? | N/A Y 1 |
| 20. Are columnar spacing or other structural components of the shelter structure to be planned in modules for efficient bunking lay-out? | N/A Y 1 |
| 21. Is the shelter site to be accessible from a public thoroughfare or other public lands? | N/A Y 2 |
| 22. Are year-round weather conditions for the community to be considered when selecting and/or designing shelters and shelter equipment? | N/A Y <u>28</u> |

Page Total

SHELTER DESIGN (Contd.)

Other (Contd.)

23. Is at least one unit of access and egress to be provided for every 200 shelter occupants?

N/A Y 33

STANDARD: A unit width is 22 inches, the space required for free travel of one aisle of persons. In no case should the width of the access or egress opening be less than 24 inches.

24. When appropriate, are provisions to be made to prevent structural damage to the shelters by natural hazards (earthquakes, hurricanes, fires, flood, etc.)?

N/A Y 4

Page Total

Total for Page 10 _____

Total for Page 11 _____

Total for Page 12 _____

CATEGORY TOTAL _____

SHELTER UTILIZATION PLAN

1. Is a shelter utilization plan to be developed, documented, and placed in each shelter?

N/A Y 33

IF THE ANSWER TO ITEM 1. IS "NO," ITEMS 2-7 MUST BE ANSWERED N/A.

2. Is the shelter utilization plan to be placed in each shelter specific to that shelter in the appropriate details?

N/A Y 6

3. Is the shelter utilization plan to have an immediate action program, including instructions for opening the shelter, to be followed by the first persons entering the shelter?

N/A Y 33

4. Is a detailed map of the shelter, with plans for utilization of space, to be included in the shelter utilization plan?

N/A Y 4

5. Is the shelter utilization plan to include instruction in actions to be taken for the selection of management personnel, and for emergent leadership to follow in improvising organizational and operational procedures, in the event of absence or incapacity of pre-designated management personnel?

N/A Y 6

6. Is the shelter utilization plan to include an inventory of the basic supplies and equipment in the shelter, including location and, as necessary, instructions on how to obtain them?

N/A Y 28

7. Is the shelter utilization plan to include maps of the community showing the control center, other shelters and locations of essential emergency resources?

N/A Y 16

CATEGORY TOTAL

PERIODIC MAINTENANCE

Food

1. Is a food surveillance program to be developed for the community shelter system?

N/A Y 23

IF THE ANSWER TO ITEM 1. IS "NO," ITEMS 2-7 MUST BE ANSWERED N/A.

- Is a sampling plan manual to be developed to permit accomplishment of the surveillance task by semi-skilled personnel?
3. Is an inspection staff to be selected and trained for the food surveillance program?
4. Is the date on which each item of packaged food must be removed from the shelter to be marked on the package or can?
5. Is shelter food storage space to be designed and are stockpiles to be arranged to facilitate the food surveillance program?
6. Is the variety in the ration to be selected limited to reduce the number of different products to be evaluated each inspection period?
7. Is the food surveillance program to include plans and procedures for the procurement of replacement food stocks?
8. Is the food stock to be arranged in the shelters so that those portions of the stock with the highest rate of turnover are to be the most accessible?
9. Is care to be taken to see that items of differing stability are not packed in the same container?
10. Is an accounting to be kept of the amount of food available in each shelter?
11. Are locked rooms or locked master containers to be provided to secure food stockpiles in dual-purpose shelters?
12. Are food stocks to be protected against moisture and extreme fluctuations in temperature?

N/A Y 3

N/A Y 4

N/A Y 19

N/A Y 2

N/A Y 1

N/A Y 23

N/A Y 1

N/A Y 2

N/A Y 16

N/A Y 19

N/A Y 28

Page Total

PERIODIC MAINTENANCE (Contd.)

Medical Supplies

- | | | | |
|---|-----|---|----|
| 13. Is a surveillance program to be developed for the medical supplies in the shelters? | N/A | Y | 39 |
| 14. Are personnel with pharmaceutical backgrounds, under the direction of a physician, to be responsible for maintaining the medical supplies for the shelters? | N/A | Y | 6 |
| 15. Whenever possible, are the medical supplies for the shelters to be stocked on a rotating basis to allow inclusion of highly desirable but less stable types of mediums and vaccines? | N/A | Y | 16 |
| 16. Are shelter medical supplies to be protected against humidity and extreme fluctuations in temperature? | N/A | Y | 33 |
| 17. Are shelter medical supplies to be protected against pilfering and vandalism? | N/A | Y | 45 |
| 18. Are medical supplies to be stored in the shelters in such a way as to permit controlled access and dispensation during shelter occupancy? | N/A | Y | 13 |
| 19. Are there to be health inspections of pre-designated feeding personnel and daily self-evaluations for health and medical conditions including infections which may be hazardous in food handlers? | N/A | Y | 10 |

Water

- | | | | |
|---|-----|---|----|
| 20. If the water storage setup is such that turnover in the water is not continuous, are procedures and schedules to be developed for its periodic replacement? | N/A | Y | 70 |
| 21. Are provisions to be made for the slight over-chlorination of water in isolated storage containers to inhibit algae growth? | N/A | Y | 13 |

Equipment

- | | | | |
|--|-----|---|----|
| 22. Are maintenance schedules and procedures to be developed for shelter equipment and facilities? | N/A | Y | 45 |
| 23. Are the individual requirements of equipment and facilities to be considered when establishing periodic maintenance schedules? | N/A | Y | 16 |

Page Total

PERIODIC MAINTENANCE (Contd.)

Equipment (Contd.)

- | | | | |
|---|-----|---|-----------|
| 24. Are provisions to be made for a maintenance staff to perform the necessary periodic maintenance activities during the stand-by period? | N/A | Y | 19 |
| 25. Are maintenance manuals and instructions to be placed with the equipment in the shelter? | N/A | Y | 39 |
| 26. Are the equipment, furnishings, fixtures, and woodwork to be cleaned and painted periodically? | N/A | Y | 1 |
| 27. Is the power equipment to be test operated on a pre-determined schedule? | N/A | Y | 45 |
| 28. If private wire telephone networks are to be available from Air Defense Control Centers to civil defense key points, are they to be tested frequently by the operating personnel? | N/A | Y | 8 |
| 29. Are the shelters and their fire-fighting equipment to be inspected for hazards and operability on a regular basis by fire-department inspectors? | N/A | Y | 39 |
| 30. Is a surveillance and refurbishment schedule to be developed for the radiological monitoring equipment? | N/A | Y | 53 |
| <p>STANDARD:</p> <ol style="list-style-type: none"> 1. Monthly check of radiological monitoring equipment. 2. Fresh batteries in instruments, yearly. 3. Annual calibration of monitoring instruments. | | | |
| 31. Are essential spare parts for shelter equipment to be available in the shelter? | N/A | Y | 61 |
| 32. Are temperature and humidity to be controlled in the shelters during the stand-by period? | N/A | Y | 10 |
| 33. Are provisions to be made for insect and rodent control in the shelters during the stand-by period? | N/A | Y | <u>13</u> |

Page Total

PERIODIC MAINTENANCE (Contd.)

Equipment (Contd.)

34. Are provisions to be made for general shelter security during the stand-by period? N/A Y 16
35. Is all shelter equipment to be tested upon installation to insure operability? N/A Y 53

Page Total

Total for Page 14 _____

Total for Page 15 _____

Total for Page 16 _____

Total for Page 17 _____

CATEGORY TOTAL _____

POST-SHELTER PLANNING (Pre-Emergency)

Food and Water

- | | | | |
|---|-----|---|----|
| 1. Are any plans to be made for acquiring food and water during the post-shelter period? | N/A | Y | 39 |
| 2. Are comprehensive guidelines to be developed for a food and water rationing and distribution scheme to be implemented during the immediate post-shelter period? | N/A | Y | 19 |
| 3. Is a current accounting to be kept of the location and type of likely sources of potable water available in the community for the post-shelter period? | N/A | Y | 23 |
| 4. Is the information regarding the location of likely sources of potable water in the community to be kept in the shelter system control center? | N/A | Y | 13 |
| 5. Are provisions to be made for decontamination of a community water supply as early as possible in the post-shelter period? | N/A | Y | 53 |
| 6. Is a current accounting to be kept of the location, size, and type of major amounts of food stuffs (grocery stores, restaurants, institutions) available in the community for the post-shelter period? | N/A | Y | 10 |
| 7. Is the information regarding the probable location, size, and type of food stocks in the community to be kept in the shelter system control center? | N/A | Y | 8 |
| 8. Are duplicates of all lists of food, water, drugs, etc. for recovery operations to be maintained in a strategically located shelter other than the shelter system control center? | N/A | Y | 8 |

Medical Supplies and Procedures

- | | | | |
|---|-----|---|----|
| 9. Is a medical records system to be prepared for casualties? | N/A | Y | 3 |
| 10. Are provisions to be made for caring for psychiatric casualties following the shelter-occupancy period? | N/A | Y | 4 |
| 11. Are advance sites to be selected for first aid, emergency feeding, and other welfare activities during the immediate post-shelter period? | N/A | Y | 13 |
| 12. Are operating forces for such disaster facilities as emergency feeding, first aid, and other welfare services to be organized? | N/A | Y | 16 |

POST-SHELTER PLANNING (Pre-Emergency) (Contd.)

Medical Supplies and Procedures (Contd.)

- | | | | |
|--|-----|---|----|
| 13. Are available medical personnel to be identified and information regarding their capabilities documented? | N/A | Y | 8 |
| 14. Is responsibility to be assigned for the direction of emergency medical welfare services following shelter occupancy? | N/A | Y | 6 |
| 15. Are available medical equipment and supplies (in the community) to be inventoried, and a current accounting as to location, type and amount kept in the shelter system control center? | N/A | Y | 16 |
| 16. Is there to be stockpiling of medical supplies and equipment in strategically sound locations? | N/A | Y | 33 |
| 17. Is a community-wide program of inoculation for all epidemic-type diseases to be implemented on a continuous basis to provide protection against epidemics during and after the shelter occupancy period? | N/A | Y | 33 |

Government

- | | | | |
|--|-----|---|----|
| 18. Is a plan to be developed to identify the community's vital records and insure their protection? | N/A | Y | 3 |
| 19. Are plans to be developed for governmental continuity which provide lines of succession for all critical positions? | N/A | Y | 4 |
| 20. Are plans to be made for reinstating governmental services directly applicable to emergency conditions, such as police, fire, and welfare, as early in the post-shelter period as possible? | N/A | Y | 13 |
| 21. Are the conditions under which there shall be a return to normal governmental processes to be determined and provisions for accomplishing the change-over to be incorporated into the enabling legislation for the emergency government? | N/A | Y | 5 |
| 22. Is the enabling legislation necessary to permit the implementation of an emergency government to be placed on the statute books? | N/A | Y | 3 |
| 23. Are local and state laws to be reviewed to insure that existing legislation does not obstruct the implementation of a recovery period governmental structure? | N/A | Y | 2 |

Page Total

POST-SHELTER PLANNING (Pre-Emergency) (Contd.)

Government (Contd.)

- | | |
|--|---------------|
| 24. Are the post-attack functions of all governmental departments and agencies to be definitized and documented? | N/A Y 3 |
| 25. Is a master plan for perpetuating the local governmental structure to be developed? | N/A Y 3 |
| 26. Is a manpower allocation agency to be established for the purpose of assembling background and skills information and to act as a controlling agency for the assignment of personnel to recovery activities? | N/A Y 4 |

Other

- | | |
|--|--------------------|
| 27. Is there to be a clearly defined procedure regarding financial responsibility in the requisitioning of privately owned facilities, equipment, and supplies of all kinds? | N/A Y 5 |
| 28. Are provisions to be made for the identification of habitable living quarters and for a means of assigning them to survivors? | N/A Y 13 |
| 29. Is a current listing of available tools, machinery, etc., necessary for carrying out decontamination activities on a community-wide basis to be maintained? | N/A Y 19 |
| 30. Is a decontaminating equipment list to be maintained in the shelter system control center? | N/A Y 16 |
| 31. Are basic procedures covering egress from the shelter to be determined and prepared as guidelines for the shelter managers? | N/A Y 16 |
| 32. Are those industries in the community vital to recovery to be given priority in the manpower allocation scheme? | N/A Y 13 |
| 33. Are arrangements to be made to restore public utilities and services on a priority basis? | N/A Y <u>13</u> |

Page Total

POST-SHELTER PLANNING (Pre-Emergency) (Contd.)

Other (Contd.)

34. Is there to be a locator system to facilitate the location of survivors by families and friends? N/A Y 5
35. Is provision to be made for garbage and refuse storage, collection, and disposal during the post-shelter period? N/A X 13

Page Total

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CATEGORY TOTAL ____

COORDINATION

- | | | | |
|---|-----|---|----------|
| 1. Are the planning efforts of the local civil defense officials to be coordinated with state and federal civil defense organizations? | N/A | Y | 10 |
| 2. Is the shelter space made available through the federal marking and stocking program to be integrated into the community shelter system? | N/A | Y | 10 |
| 3. Is a framework for coordinating such activities as radiological monitoring, decontamination, and reconstruction among all shelters to be developed in order to obtain maximum effectiveness? | N/A | Y | 19 |
| 4. Are the community resources which can be utilized through local government departments (i.e., fire, police, health, welfare, public works, etc.) in support of shelter management to be formally determined? | N/A | Y | 6 |
| 5. Is the local Public Works Department to aid in planning, staffing, and training shelter personnel in supply, maintenance, and engineering? | N/A | Y | 2 |
| 6. Is the local Police Department to aid in planning, staffing, and training shelter personnel in maintenance of order? | N/A | Y | 4 |
| 7. Is the local Fire Department to aid in planning, staffing, and training shelter personnel in fire protection and emergency escape? | N/A | Y | 4 |
| 8. Is the local Welfare Department to aid in planning, staffing, and training shelter personnel in feeding, sleeping, registration and information, care of children, the aged, and the handicapped, and general social services? | N/A | Y | 4 |
| 9. Is the local Health Department to aid in planning, staffing, and training shelter personnel in health, hygiene, and sanitation? | N/A | Y | 8 |
| 10. Are arrangements to be made with neighboring communities for the exchange of manpower, materials, and information? | N/A | Y | 3 |
| 11. Are the civil defense efforts of the community's industries to be integrated into the total civil defense plan for the community? | N/A | Y | <u>1</u> |

CATEGORY TOTAL

WARNING SYSTEM

1. Is the community to have a civil defense warning system? N/A Y 100

IF THE ANSWER TO ITEM 1. IS "NO," ITEMS 2-10 MUST BE
ANSWERED N/A.

- | | | | |
|--|-----|---|-----------|
| 2. Is the adequacy of coverage of the warning system to be determined under all possible conditions? | N/A | Y | 45 |
| 3. Is the total warning system including the human components to be tested on a non-scheduled basis to assess operational capability? | N/A | Y | 33 |
| 4. Is the warning signal of attack to be one that is never associated or identified with a test situation or with other kinds of emergency signals? | N/A | Y | 39 |
| 5. Are a limited number of telephones to be specifically assigned for civil defense warning and given preferential treatment when there is an exceptional volume of telephone traffic? | N/A | Y | 19 |
| 6. If private wire telephone networks are to be available from Air Defense Control Centers to civil defense key points are they to be equipped with trouble-indicating devices? | N/A | Y | 16 |
| 7. Are alerts to be transmitted to key personnel in radio and television stations, private industries, public utility companies, hospitals and local government organizations who must react instantly to provide leadership and services in the event of an attack? | N/A | Y | 19 |
| 8. Are emergency power supplies for the warning and communications channels to be available at vital points? | N/A | Y | 39 |
| 9. Are standard procedures to be developed which govern population response according to the type of warning given? | N/A | Y | 19 |
| 10. Is some means other than radio to be the primary means of disseminating alerts to the public? | N/A | Y | <u>53</u> |

CATEGORY TOTAL

INGRESS

1. Are shelterees to be given specific directions on which routes to take to shelter? N/A Y 19
2. Are access routes to the shelters to be well marked and publicized? N/A Y 39
3. Is information regarding change in the condition of access streets or roads to be publicized immediately to all concerned? N/A Y 16
4. Are changes in traffic routing plans to be publicized thoroughly as local civil defense planning evolves? N/A Y 16
5. Are year-round weather conditions for the community to be considered when planning shelter access routes? N/A Y 19
6. Are specific assignments to be made within the local governmental departments as to who will direct the movement of the population to shelter and move supplies to safer areas or to points of need? N/A Y 16
7. Are keys for the shelters to be assigned to enough responsible people to insure that one of the early arrivals will have a key to the shelter? N/A Y 61
8. On ingress, are persons with serious health problems to be directed to the sick bay area of the shelter? N/A Y 4
9. Are specific procedures for ingress to be developed for implementation by the first people to reach the shelters? N/A Y 8
10. Are detailed instructions for accomplishing the button-up procedure to be written and placed in the shelters? N/A Y 33
11. Is the number of people which could be safely sheltered for a limited amount of time under extreme conditions to be calculated? N/A Y 45
12. Is it to be understood that it is the duty of the shelter manager to decide at what point further admittance to the shelter should be denied? N/A Y 53
13. Is the maximum loading time for each shelter to be determined so that this information can be integrated into an estimate of the overall reaction time for the community? N/A Y 16
14. If the shelter is dual purpose, is the floor space covered by non-shelter equipment to be limited to 6% or less? N/A Y 4

CATEGORY TOTAL

RADIOLOGICAL DEFENSE

1. Are radiation monitoring instruments to be available in each shelter? N/A Y 81

IF THE ANSWER TO ITEM 1. IS "NO," ITEMS 2-4 MUST BE ANSWERED N/A.

2. Are instructions for operating the radiation monitoring devices to be placed with the instruments? N/A Y 53
3. Is each shelter to be instrumented with a monitoring system for continuous reading of radiation intensity in the above-ground vicinity? N/A Y 39
4. Are provisions to be made for monitoring radiation levels and dosage within the shelters? N/A Y 53

Personnel

5. Are trained radiological personnel to be provided for each shelter? N/A Y 39
6. Are highly trained personnel to be available in the community control center to assemble and interpret radiation information from the various shelters? N/A Y 19
7. Are training programs to be initiated for potential shelterees selected to assist in radiological defense? N/A Y 4
8. Are periodic exercises to be carried out to develop and maintain operational readiness in the radiological defense teams? N/A Y 1^

Radiation Protection

9. Are manuals containing charts and instructions for determining radiation levels, dose rates, dosage, total sheltering from radiation required, etc., to be stocked in the shelters? N/A Y 70
10. Are entrance openings to be provided with barriers to reduce radiation shine on the access passageway? N/A Y 28
11. Are parts of the shelter with lowest protection factor to be used for storage and issue of food and supplies and temporary storage of human and other waste? N/A Y 10
12. Is the shelter decontamination area to be shielded sufficiently to protect the rest of the shelter living area from radiation? N/A Y 53

Page Total

RADIOLOGICAL DEFENSE (Contd.)

Radiation Protection (Contd.)

- | | | | |
|--|-----|---|----|
| 13. Are the filters in the ventilation system to be shielded properly to avoid radiation "hot spots" in the shelter interior? | N/A | Y | 45 |
| 14. Are procedures and formats for maintaining a radiation history on each individual to be developed? | N/A | Y | 10 |
| 15. Are protective respiratory devices to be available for people who must work in areas of high concentrations of contaminated dust? | N/A | Y | 45 |
| 16. Are standards to be set for acceptable radiation levels in which work parties can perform? | N/A | Y | 70 |
| 17. Are radiation protection procedures governing the shelter egress and ingress of work parties, scouts, etc., to be developed and personnel trained in them? | N/A | Y | 45 |

Decontamination

- | | | | |
|---|-----|---|-----------|
| 18. Are provisions to be made for the possibility of having to remove fallout material from water prior to consumption? | N/A | Y | 53 |
| 19. Are facilities for the disposal of contaminated clothing, water, food, and equipment to be available in the shelters? | N/A | Y | 53 |
| 20. Are training courses to be developed for teaching shelterees proper decontamination methods? | N/A | Y | 28 |
| 21. Are personnel decontamination facilities to be available in the shelters? | N/A | Y | 61 |
| 22. Are monitoring and decontamination procedures for initial entry to be developed which are commensurate with facilities to be available in the shelters? | N/A | Y | <u>39</u> |

Page Total

RADIOLOGICAL DEFENSE (Contd.)

Decontamination (Contd.)

23. Is equipment for post-shelter decontamination activities to be inventoried and stored so as to avoid direct contamination whenever possible?

N/A Y 19

24. Are there to be provisions for decontaminating adjacent buildings to allow early exit from the shelter of overflow occupants?

N/A Y 13

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Total for Page 27 _____

CATEGORY TOTAL _____

SHELTER MANAGEMENT (In-Shelter)

Management

- | | |
|--|--------------|
| 1. Is a management structure to be determined for each shelter and for the entire shelter system? | N/A Y 16 |
| 2. Are provisions to be made for determining lines of succession in case shelter management officials are incapacitated? | N/A Y 5 |
| 3. Is the shelter manager to be the final authority on shelter policy and operation, with advice from his staff and an advisory council made up of shelterees? | N/A Y 16 |

Organization

- | | |
|---|-------------|
| 4. Is a definite plan to be developed for the organization of shelterees? | N/A Y 4 |
| 5. Is the organizational structure of the shelter system to be commensurate with the size and type of shelter population? | N/A Y 5 |
| 6. Are pre-shelter groupings of shelterees to be maintained wherever possible? | N/A Y 1 |
| 7. If a shelter complex is large, is it to be physically subdivided into small units so that organization within each can be self-sufficient? | N/A Y 3 |
| 8. Are provisions to be made for implementing organizational structure as soon after ingress as practicable? | N/A Y 3 |
| 9. Are the organizational plans for the shelter system to include ways and means of integrating shelterees into the organizational structure? | N/A Y 6 |
| 10. Is the shelter organization to be such that the elected group leaders form a liaison between higher level management and the shelterees? | N/A Y 1 |

Documentation

- | | |
|--|--------------|
| 11. Are the duties and responsibilities of shelter management personnel to be written in such a manner that they do not inhibit the handling of contingencies not foreseen in the planning phases? | N/A Y 16 |
|--|--------------|

Page Total

SHELTER MANAGEMENT (In-Shelter) (Contd.)

Documentation (Contd.)

- | | |
|--|----------------|
| 12. Are the duties and responsibilities of <u>all</u> positions in the shelter organization to be defined and placed in the shelters in printed form? | N/A Y 4 |
| 13. Are standard operating procedures to be set up for assuming an attack readiness condition for the type of threat (blast, heat, radiation) expected and protection to be afforded by the shelter? | N/A Y 19 |

Selection

- | | |
|---|---------------|
| 14. Are the lower echelons and non-specialist positions in the shelter management staff to be filled through the democratic process? | N/A Y 1 |
| 15. Are the methods for selecting people for the various positions in the shelter organization to be pre-determined and documentation of this to be placed in the shelters? | N/A Y 1 |

Activity Scheduling

- | | |
|---|---------------|
| 16. Is a schedule for routine shelter activities to be established which will be implemented as soon after ingress as possible? | N/A Y 3 |
| 17. When modifications to schedules are necessary, are the modifications to be worked out in accordance with the wishes of the majority subject to approval by the shelter manager? | N/A Y 1 |
| 18. Is each able shelteree to be assigned a specific task for a given period each day? | N/A Y 1 |

Other

- | | |
|---|---------------|
| 19. Is a census to be taken of the sheltrees as soon as practicable after ingress? | N/A Y 4 |
| 20. Is some means of identifying shelter management personnel to be devised and stocked in the shelter? | N/A Y 2 |
| 21. Is there to be proper marking of areas and designations of organizational units? | N/A Y 1 |
| 22. In general, is release of supplies to be made to the appropriate leaders under approved schedules and plans, and not directly to the sheltrees? | N/A Y 4 |

Page Total

SHELTER MANAGEMENT (In-Shelter) (Contd.)

Other (Contd.)

- | | | | |
|---|-----|---|----|
| 23. Are minor infractions of the rules such as violation of quiet hours to be handled by the unit leader? | N/A | Y | 1 |
| 24. Are unit leaders to be responsible for such things as sleeping arrangements, use of blankets, extra clothing for bedding, etc., within the space assigned to their groups? | N/A | Y | 1 |
| 25. Is a night watch system to be set up for security and aid during the night? | N/A | Y | 4 |
| 26. Is each shelter to have an assigned police officer? | N/A | Y | 4 |
| 27. Are weapons brought to the shelter to be confiscated immediately? | N/A | Y | 16 |
| 28. Are possible sources of conflicts in moral values among shelterees to be identified and steps such as shelter management training, predetermined rules and regulations, etc., to be taken to curb them? | N/A | Y | 5 |

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CATEGORY TOTAL _____

ATMOSPHERE CONTROL

1. Are provisions to be made for meeting ventilation requirements in each shelter with respect to fresh air temperature, humidity and O₂/CO₂ content under normal and emergency conditions? N/A Y 100
- STANDARD: Environmental limits: (a) For normal occupancy, ventilation sufficient to maintain normal oxygen and carbon-dioxide concentrations (O₂ at 20%; CO₂ less than 2%) and an effective temperature of not more than 85 degrees; (b) for emergency closure conditions, facilities to maintain oxygen concentration not less than 14%; carbon-dioxide concentration, not more than 3%; effective temperature, not more than 90 degrees. 3 cfm of fresh air per person is recommended as sufficient to maintain proper CO₂ and oxygen levels.
2. Are back-up ventilation systems to be installed in those shelters which do not have sufficient volume per person to support life without auxiliary ventilation under normal and/or overcrowded conditions? N/A Y 100
3. Are mechanical and procedural steps to be taken to prevent concentration of toxic agents (CO, gas fumes, smoke, etc.) from building up in the shelter atmosphere? N/A Y 100
4. Are instruments for the detection of toxic fumes (CO, gas fumes, etc.) to be available in every shelter? N/A Y 70
5. Are instruments for monitoring the temperature and humidity of the air to be stocked in the shelters? N/A Y 19
6. Are there to be instruments for monitoring the O₂ and CO₂ content of the air in each shelter? N/A Y 61
7. Are personnel to be selected and trained in the use of all atmospheric monitoring devices in the shelters? N/A Y 23
8. Are instructions for operating the atmosphere control equipment to be written and placed in the shelter? N/A Y 61
9. Are detailed instructions on the operation and interpretation of the atmospheric monitoring devices to be placed in the shelters with the equipment? N/A Y 61

Page Total

ATMOSPHERE CONTROL (Contd.)

10. Is outside air being brought into the shelters to be filtered properly? N/A Y 100
- STANDARD: Filters should remove at least 90% of 50 micron particles.
11. Are the shelters to have air-intake systems located to minimize the chances of heated air or noxious gases from outside fires being drawn into the ventilation system? N/A Y 39
12. Are provisions to be made for controlling odors in the shelters? N/A Y 5
- STANDARD: Possible approaches:
1. Adequate supply of fresh air
 2. Recirculate indoor air through activated charcoal filter
 3. Recirculate indoor air through a spray-type dehumidifier
 4. Use a capillary-type air conditioner
 5. Deodorants and counteractants
 6. Increase temperature and relative humidity (within limits of comfort)
13. Is there to be an exhaust fan near the cooking area to reduce heat and odors? N/A Y 1
14. If a gasoline-engine-driven generator within the shelter structure is used, are air intake to and exhaust gases from the engine to be conducted through pipes to the outside atmosphere? N/A Y 81

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CATEGORY TOTAL _____

WATER

- | | | | |
|--|-----|---|-----------|
| 1. Is there to be a means of determining the quantity of water remaining which does not require leaving the shelters? | N/A | Y | 6 |
| 2. Are records and curves to be kept on the consumption of water to enable shelter managers to ration the water supply? | N/A | Y | 33 |
| 3. Are individual drinking cups to be provided for each shelteree? | N/A | Y | 8 |
| 4. Are there to be firm rules and instructions covering the means of identifying and safekeeping individual drinking cups? | N/A | Y | 1 |
| 5. Are provisions to be made for temporary storage of drinking cups? | N/A | Y | 1 |
| 6. If the water storage tank in the shelter is to be connected directly to the city water supply, can the shelter water be isolated in the event of an attack? | N/A | Y | 92 |
| 7. If non-potable water is to be available in the shelter, is water for human consumption to be stored separately? | N/A | Y | 70 |
| 8. Is there to be access to water even if the pumping system should fail, e.g., by gravity flow or from barrels? | N/A | Y | 92 |
| 9. Are provisions to be made for the utilization and/or disposal of waste water? | N/A | Y | <u>19</u> |

CATEGORY TOTAL

FOOD

1. Are provisions to be made for the preparation and serving of food in the shelters?	N/A	Y	61
2. Is there to be a well-coordinated plan for food preparation, placing and removing tables, and cleanup?	N/A	Y	5
3. Are counter space or tables to be provided for food preparation?	N/A	Y	1
4. Are gloves or holders for handling hot pans to be provided?	N/A	Y	1
5. Are vessels for heating, carrying, and serving liquids to have handles and pouring spouts or lips?	N/A	Y	1
6. If large pots are to be used in cooking, are long-handled spoons and ladles to be provided?	N/A	Y	1
7. Is a sink to be provided in the kitchen area for use in the preparation of meals and for washing utensils and equipment?	N/A	Y	5
8. Are food storage and water source to be easily accessible to the food preparation area?	N/A	Y	1
9. Is hot food to be planned for?	N/A	Y	1
10. Is an adequate selection and quantity of utensils and kitchen equipment to be provided in each shelter?	N/A	Y	13
11. Is the equipment (bunks, chairs, tables) and the shelter layout to be such that a separate dining area can be set up?	N/A	Y	1
12. Are dining schedules and procedures to be developed in advance to expedite the feeding program?	N/A	Y	1
13. Are utensils for eating and food preparation to match the ration to be provided?	N/A	Y	6
14. Is a barrier arrangement to be provided to keep the crowd from pressing in on the food handlers?	N/A	Y	2
15. Is there to be a separate baby-feeding facility?	N/A	Y	3
16. Is serviceable tableware to be provided for shelterees?	N/A	Y	<u>1</u>

Page Total

FOOD (Contd.)

17. If non-disposable dishes are to be used, are they to be of a type and quality which will last for at least two weeks?	N/A	Y	3
STANDARD: Inexpensive hard plastic dishes are totally inadequate. Inexpensive soft plastic bowls are adequate.			
18. In the event the shelter were to be extremely crowded, are plans to be made and equipment to be available to deliver food and water to the sheltrees in a designated eating place?	N/A	Y	3
19. In a shelter complex, is food to be warehoused and placed in the hands of a competent supply officer?	N/A	Y	13
20. Are the shelter rations to be stored in such a manner so as to be protected against insects and rodents during shelter occupancy?	N/A	Y	23
21. Is the shelter food supply to be stored in such a way that it can be easily secured against pilferage during shelter occupancy?	N/A	Y	45
22. When placing food in storage, is consideration to be given to the order in which it will be used?	N/A	Y	1
23. Is the basis for a rationing program to be developed, documented and included in the shelter for use by shelter management?	N/A	Y	19
24. Are nutritionists to be consulted in planning mass feeding programs?	N/A	Y	8
25. Does any rationing program to be developed take into account differences in individual needs?	N/A	Y	5
26. Do types of dishes and utensils to be provided match the capabilities for washing them?	N/A	Y	8
27. Are all equipment and work surfaces to be of a form and material that are very easy to clean?	N/A	Y	3
28. Are adequate facilities to be provided for disposing of the waste materials associated with feeding?	N/A	Y	23

Page Total

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CATEGORY TOTAL _____

SLEEP

1. Are bunking facilities to be provided in the shelters? N/A Y 19

IF THE ANSWER TO ITEM 1. IS "NO," ITEMS 2-5 MUST BE ANSWERED N/A.

2. If bunking facilities are to be provided, are they to be of adequate length and width? N/A Y 4

STANDARD: minimum 72" long by 20" wide

3. Are some bunks to be designed so as to allow complete dismantling and storage in order to provide space for dining and recreation? N/A Y 3

4. Are individual bunks to be removed to permit seating? N/A Y 2

5. Is bunking equipment to be designed so that movement in one bunk is not transmitted to others? N/A Y 1

6. Are blankets to be stocked in the shelter? N/A Y 13

7. Are quiet hours to be compulsory? N/A Y 1

8. Is designation of the sleeping space and its arrangement to be determined by the shelter management with the advice and consent of the advisory committee? N/A Y 1

CATEGORY TOTAL

SANITATION

Toilet Facilities

1. Are sufficient toilet facilities to be provided in each shelter for the estimated population? N/A Y 45
 STANDARD: Regular or austere flush-type toilets, chemical or disposable toilets, available on the basis of one per 25 occupants.
2. Is each shelter to have an adequate sewage capacity based on expected shelter population for a two-week period? N/A Y 53
 STANDARD: Sanitary facilities should accommodate 8 gallons of sewage per person sheltered for a two-week period.
3. If chemical toilets are to be used, are water, chemicals, and instructions for charging the toilets to be available in the shelter? N/A Y 39
4. Is account to be taken of the fact that an epidemic of food poisoning would greatly increase the toilet facility requirements? N/A Y 39
5. Are the toilet tanks to be vented to the outside? N/A Y 28
6. Are additional provisions to be made for minimizing odor from the toilet facilities? N/A Y 6
7. Are toilet facilities to be located as far as possible from the food area? N/A Y 10
8. Are toilet seat covers to be provided to prevent the spread of disease? N/A Y 4
9. Is toilet paper to be stocked in the shelters? N/A Y 13
10. Are rubber gloves or other forms of protection to be provided for use in such jobs as cleaning toilet areas, etc? N/A Y 3

Personal Hygiene

11. Are there to be facilities for basic hand cleaning? N/A Y 19
12. Are well-defined regulations pertaining to maintaining sanitary conditions within the shelters to be written and placed in the shelters? N/A Y 13

Page Total

SANITATION (Contd.)

Personel Hygiene (Contd.)

- | | |
|--|---------------|
| 13. Is a thorough sanitation inspection of the entire shelter facility to be made at least daily? | N/A Y 8 |
| 14. Is each unit of shelterees in the shelter to police its own sanitary condition and keep its assigned space as clean as conditions allow? | N/A Y 1 |

Supplies

- | | |
|--|----------------|
| 15. Is the stock of sanitation supplies to be commensurate with shelter population size, facilities available, and anticipated length of stay? | N/A Y 45 |
| 16. Are provisions to be made for monitoring and control of sanitation supply use? | N/A Y 16 |
| 17. Are general housekeeping supplies and equipment to be available in the shelters? | N/A Y 3 |
| 18. Are supplies and equipment for combating insects and rodents to be stocked in the shelters? | N/A Y 19 |

Food Handling

- | | |
|---|----------------|
| 19. Are special precautions to be taken to insure adequate levels of personal hygiene among the food handlers in the shelters? | N/A Y 53 |
| 20. Are facilities to be provided for the thorough cleansing of all utensils and equipment to be re-used during food preparation and serving? | N/A Y 28 |

Water

- | | |
|---|----------------|
| 21. If the water supply is limited, are waterless cleaners to be available for personal hygiene? | N/A Y 16 |
| 22. If potable water is to be used for personal cleanliness, are strict controls to be instituted to avoid waste? | N/A Y 45 |
| 23. Because of water limitations, are non-sudsing detergents to be available for dishwashing? | N/A Y 6 |

Other

- | | |
|---|----------------|
| 24. Are provisions to be made for the collection and temporary storage of dry waste and garbage in sealed containers? | N/A Y 33 |
|---|----------------|

Page Total

SANITATION (Contd.)

Other (Contd.)

25. Are provisions to be made for maintaining personal hygiene in the event of contingencies such as widespread nausea and diarrhea? N/A Y 33
26. If the shelters are to have concrete floors, is floor sealer to be used to alleviate "dusting" of the concrete? N/A Y 2

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CATEGORY TOTAL _____

MEDICAL

- | | | | |
|--|-----|---|-----------|
| 1. Is at least one doctor or first-aid expert to be assigned to each shelter? | N/A | Y | 70 |
| 2. Are shelter management personnel to be instructed in how to cope with irrational behavior problems resulting from confinement under high stress conditions? | N/A | Y | 13 |
| 3. Are first-aid manuals to be included with shelter medical supplies? | N/A | Y | 53 |
| 4. Are county or state health organizations to be consulted on the probabilities of epidemics or widespread non-contagious sickness in the shelter population, and means for preventing or combating such contingencies? | N/A | Y | 45 |
| 5. Is an estimate of expected casualties to be made and used in planning medical facilities for the shelters? | N/A | Y | 39 |
| 6. Are medical supplies and first-aid kits to be under lock and key and administered by the shelter manager or his appointee? | N/A | Y | 23 |
| 7. Is an all-purpose type of medicine to be stocked in each shelter in large enough quantities so as to preclude establishment of priorities in all but the most severe circumstances? | N/A | Y | 28 |
| 8. Are extra blankets to be provided for the sick bay? | N/A | Y | 13 |
| 9. Is the medical ward to be isolated by a solid wall? | N/A | Y | 4 |
| 10. Are facilities to be provided for handling maternity cases in the shelter? | N/A | Y | 10 |
| 11. Is movement between shelter groups to be controlled in order to prevent the spread of disease? | N/A | Y | 13 |
| 12. Are potential shelterees with special food or medicinal requirements to be advised that they are to be prepared to bring the necessary food or drugs with them to the shelter? | N/A | Y | 13 |
| 13. Are provisions to be made for the temporary storage or disposal of cadavers? | N/A | Y | <u>33</u> |

CATEGORY TOTAL

SPACE-VOLUME REQUIREMENTS

- | | |
|--|--------------|
| 1. Are at least 10 square feet of shelter floor area to be provided for each person? | N/A Y 13 |
| 2. Is sufficient net space to be provided for each occupant under normal load conditions? | N/A Y 81 |
| STANDARD: At least 65 cubic feet of net space for all occupants. | |
| 3. If mechanical ventilation is not to be provided, is sufficient net space to be provided for each occupant under normal load conditions? | N/A Y 92 |
| STANDARD: See table on page 2 of;
<u>Protective Structures Division. Minimum Technical Requirements for Group (Community) Shelters.</u>
Washington 25, D.C.: Office of Civil Defense,
Technical Memorandum 61-3, August 7, 1962. | |
| 4. Is additional shelter space near the present shelters (possibly less desirable because of a lower protection factor) to be identified and minimally stocked for use in the event of serious overcrowding in the shelters? | N/A Y 70 |
| 5. Is a plan to be developed for dividing and marking the shelter area into sleeping quarters (by units, sections, and divisions as appropriate), as well as into management, medical, storage and supply, distribution, and other required space? | N/A Y 4 |

CATEGORY TOTAL

LIGHTING

Normal

1. Are provisions to be made for illumination in each shelter? N/A Y 70

IF THE ANSWER TO ITEM 1. IS "NO," ITEMS 2-11 MUST BE ANSWERED N/A.

2. Are adequate levels of illumination to be provided throughout the shelters? N/A Y 10

STANDARD: Hallways, aisles, stairs - 5 foot-candles
Sleeping areas - 3-5 foot-candles
Work areas - 25-50 foot-candles

3. Are circuit-breakers to be used in the circuits or are adequate replacement fuses to be stocked in the shelters? N/A Y 10

4. Are the lights to have manual switching, centrally controlled, for management purposes? N/A Y 1

5. Are service area switches to be controlled locally? N/A Y 1

6. Are the entry-ways to be lighted? N/A Y 5

7. Are night-lights to be provided to permit easy passage to and from toilets and to provide sufficient light for night-watch monitoring? N/A Y 4

8. Are lights required during sleeping hours to be on a different circuit from those required during active hours? N/A Y 1

9. Are shelter ceilings and walls to be painted so as to maximize light reflection? N/A Y 1

Emergency

10. Is adequate extended-period emergency lighting to be provided? N/A Y 19

STANDARD: Emergency lighting minimum levels are:
(a) Sleeping areas--2 foot-candles
(b) Activity areas (floor level)-- 5 foot-candles
(c) Administrative and medical areas (des. level)
--20 foot-candles.

Page Total

LIGHTING (Contd.)

Emergency (Contd.)

11. Are provisions to be made for temporary emergency
lighting in the event of primary power source failure? N/A Y 28

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CATEGORY TOTAL _____

POWER SUPPLY

- | | |
|--|--------------------|
| 1. Is an independent power supply to be provided for each shelter in the system? | N/A Y 61 |
| 2. If the shelter is to have an independent power supply, are the generators to have a recommended 1 to 10 K/100 occupants capacity for the expected shelter population? | N/A Y 16 |
| 3. Is the shelter power supply to be adequate to meet the peak demands of the shelter electrical system? | N/A Y 45 |
| 4. Is the amount of fuel stored for operating the power supply to be adequate for the expected length of stay, including provisions for contingencies? | N/A Y 61 |
| 5. Are fuel tanks to have calibrated sight gauges or other means of determining fuel levels from within the shelter living area? | N/A Y 19 |
| 6. Are records and curves to be kept when monitoring consumption of fuel? | N/A Y 10 |
| 7. Are precautions to be taken to guard against total fuel loss as the result of leaks in the tanks or service piping? | N/A Y 23 |
| 8. Are shelter power supply sources to be vented and shielded when located within the shelter so as to keep the heat exchange to a minimum? | N/A Y 10 |
| 9. Are the shelter power supply systems to have back-up capabilities for continued power in the event of a major breakdown? | N/A Y <u>61</u> |

CATEGORY TOTAL

CONTINGENCY PLANNING

Fire Hazards

1. Is fire-fighting equipment to be available in each shelter?	N/A	Y	61
2. Is the shelter fire plan including number, kind, and location of equipment to be developed according to standards determined by the local fire officials?	N/A	Y	19
3. Are local fire officials to be requested to provide fire-fighting instructions which can be posted in the shelter?	N/A	Y	8
4. Are provisions to be made for developing an organized group within each shelter to handle any fire-fighting activities?	N/A	Y	13
5. Are fire drills to be conducted periodically during shelter occupancy?	N/A	Y	10
6. Are chemical fire extinguishers to be prohibited in the shelters?	N/A	Y	33
7. Are explosion-proof fixtures and equipment to be used for the power supply and positive ventilation in these areas to be maintained to prevent in-shelter originated blast or fire?	N/A	Y	28
8. Are the exteriors of the shelters fire resistant?	N/A	Y	33
9. Are all shelter furnishings to be fire resistant?	N/A	Y	13
10. Are doors between the mechanical-equipment room and the shelter living space to be of a material to provide fire protection?	N/A	Y	16
11. Are regulations regarding smoking, litter control, maintaining access to all areas in the shelter, and use of equipment with potential fire-hazard features to be developed and posted in prominent places in the shelters?	N/A	Y	23
12. Is there to be provision for thorough and periodic inspection during shelter occupancy to avoid the creation of fire hazards?	N/A	Y	28
13. Are foods to be heated by some means that does not involve the use of flame, which should be avoided due to fire hazards and oxygen requirements?	N/A	Y	16

Page Total

CONTINGENCY PLANNING (Contd.)

Emergency Exits

- | | | | |
|--|-----|---|----|
| 14. Are at least two widely separated emergency exits to be provided in each shelter which cannot be blocked or buried under debris? | N/A | Y | 53 |
| 15. In case of emergency, are all exits and routes to be clearly marked and familiar to all? | N/A | Y | 45 |
| 16. Are the emergency exits to be easily accessible? | N/A | Y | 45 |
| 17. Are emergency escape drills to be conducted periodically during shelter occupancy? | N/A | Y | 8 |

Other

- | | | | |
|---|-----|---|----|
| 18. Are tools and emergency equipment to be available in the shelters? | N/A | Y | 45 |
| 19. Are the shelters to be capable of supporting life in excess of a minimum 14-day period? | N/A | Y | 23 |
| 20. Are provisions to be made for refurbishing the shelter as soon as possible after the occupancy in the event of repeated explosions? | N/A | Y | 33 |
| 21. Is dual-purpose or converted shelter space to be inspected for such hazards as flooding, collapsing overhead structures, flammability of shelter constructional material, etc., and are steps to be taken to eliminate these hazards? | N/A | Y | 53 |
| 22. Are troubleshooting guides as well as mechanical backup systems to be provided for the critical systems such as power, ventilation, sanitation, and communication? | N/A | Y | 45 |
| 23. Are safety rules pertinent to the shelters and equipment in them to be established and enforced? | N/A | Y | 23 |
| 24. Is a thorough safety inspection of the entire facility to be made at least daily? | N/A | Y | 4 |
| 25. Are the proper precautions to be taken to avoid seepage or flooding in the shelters? | N/A | Y | 45 |

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CATEGORY TOTAL _____

COMMUNICATION

1. Is there to be inter-shelter communication?	N/A	Y	53
2. Are emergency power supplies to be available at vital points in the communications network?	N/A	Y	39
3. Are both radio and telephone communication equipment to be available in the shelters?	N/A	Y	13
4. Is the community control center to be able to maintain contact with the state control center(s)?	N/A	Y	13
5. Is communications equipment to be available in the shelters for maintaining contact with radiological teams and work parties working outside the shelters?	N/A	Y	16
6. Are instructions for operating the communications equipment to be placed in the shelters?	N/A	Y	23
7. Are broadcast networks to be monitored continuously?	N/A	Y	23
8. Are in-shelter broadcast monitors to log all pertinent information?	N/A	Y	23
9. Are periodic reports covering the general situation in the community and other significant factors to be made to the shelterees?	N/A	Y	10
10. Are provisions to be made for reuniting families via the communications system as soon as possible?	N/A	Y	6
11. Are PA systems, loudspeakers or battery-powered megaphones for internal communications to be available in those shelters where shelter layout and group sizes are such as to require them?	N/A	Y	19
12. Are internal communications by PA, etc., to be limited to vital information to preserve the impact of important announcements?	N/A	Y	<u>2</u>

CATEGORY TOTAL

CONTROL

- | | |
|---|----------------|
| 1. Is there a civil defense director for the community? | N/A Y 53 |
| 2. Is each shelter in the community to be organized as a unit of the community shelter system and as such under the direct control of the local civil defense director? | N/A Y 33 |
| 3. Is a projected, adequately equipped control center to be available for community officials required for the direction and coordination of the shelter system? | N/A Y 28 |

IF THE ANSWER TO ITEM 3. IS "NO," ITEMS 4-9 MUST BE ANSWERED N/A.

- | | |
|--|-------------------|
| 4. Are the functions of the central control unit to be defined and publicized along with its legal authority? | N/A Y 8 |
| 5. Is there to be an alternate control center that can be designated if the main control center is rendered inoperable? | N/A Y 16 |
| 6. Is the control center for the community shelter system to be integrated into the state civil defense system? | N/A Y 16 |
| 7. Are provisions to be made for maintaining contact between the designated control point of the shelter system and individual shelters? | N/A Y 39 |
| 8. Are procedures to be set up for integrating in-shelter and extra-shelter control of shelter egress? | N/A Y 33 |
| 9. If the size of the community shelter system warrants it, are zone control centers to be designated and staffed to facilitate control of the system? | N/A Y <u>4</u> |

CATEGORY TOTAL

MAINTENANCE

1. Are tools and materials to be stocked in the shelters for use in maintaining or repairing the shelter facilities and equipment? N/A Y 45
2. When possible, are personnel with experience and ability in building and equipment maintenance to be assigned to specific shelters? N/A Y 13
3. Are provisions to be made for selecting maintenance personnel after ingress who will be responsible for maintaining the shelter facilities and equipment during the occupancy period? N/A Y 23

CATEGORY TOTAL

NOISE

- | | | | |
|---|-----|---|----------|
| 1. Is maintaining a low ambient noise level in the shelter to be kept in mind when selecting such shelter equipment as ventilator blowers and generators? | N/A | Y | 8 |
| 2. Are the ventilating system and the power generators to be remote from the shelter living areas in order to lessen the amount of noise? | N/A | Y | 4 |
| 3. Is acoustical tile to be used when feasible to cut down noise? | N/A | Y | 1 |
| 4. Are noise abatement practices for shelterees to be carefully outlined and documented to aid shelter management in establishing and maintaining control in this area? | N/A | Y | <u>2</u> |

CATEGORY TOTAL

TRAINING

- | | | | |
|---|-----|---|----|
| 1. Is a selection program which can be implemented during shelter occupancy to be developed to aid in identifying sheltrees for specialized training for the post-shelter period? | N/A | Y | 8 |
| 2. Are provisions to be made for conducting any organized training activities during the shelter occupancy period? | N/A | Y | 19 |

IF THE ANSWER TO ITEM 2. IS "NO," ITEMS 3-9 MUST BE ANSWERED N/A.

- | | | | |
|---|-----|---|----------|
| 3. Are manuals and supplementary materials for all training programs to be conducted in the shelters to be stocked in the shelters? | N/A | Y | 10 |
| 4. Are provisions to be made for updating training materials when necessary? | N/A | Y | 6 |
| 5. Is an in-shelter training program to be developed to train sheltrees in the art of shelter living? | N/A | Y | 4 |
| 6. Is an in-shelter training program to be developed for preparing sheltrees for post-shelter living? | N/A | Y | 19 |
| 7. Are potential sheltrees, whose skills will be of a critical nature in post-shelter living, to be pre-selected and assigned to shelters for the purpose of conducting training courses during the shelter occupancy period? | N/A | Y | 8 |
| 8. Are special training courses to be developed for children to prepare them for post-shelter living? | N/A | Y | 5 |
| 9. Are instructional programs in mass feeding to be carried on during shelter occupancy? | N/A | Y | <u>2</u> |

CATEGORY TOTAL

RECREATION AND RELIGIOUS ACTIVITIES

1. Is an organized recreational program to be set up for implementation during the shelter period?	N/A	Y	1
2. Are suggestions for recreation to be documented and stocked in each shelter?	N/A	Y	1
3. Is adequate reading material to be available in each shelter?	N/A	Y	1
4. Is suitable recreation space to be available in each shelter?	N/A	Y	1
5. Is the dining and recreation area to be furnished with tables and benches, which may also be used for playing games of various kinds?	N/A	Y	1
6. Are religious activities to be encouraged?	N/A	Y	1
7. Is space to be made available for religious services?	N/A	Y	1
8. Is a program of non-strenuous physical activity to be planned for the occupancy period?	N/A	Y	1
9. Are supervised games or directed exercises to be provided for the children?	N/A	Y	<u>1</u>

CATEGORY TOTAL

POST-SHELTER PLANNING (In-Shelter)

Egress

- | | | | |
|--|-----|---|----|
| 1. Is a basis for determining when shelterees may leave the shelter to be developed? | N/A | Y | 81 |
| 2. Is authorization for mass egress operations to come only from the shelter system's central control, communications conditions permitting? | N/A | Y | 39 |
| 3. Are emergency missions outside the shelter to be planned with the radiological personnel? | N/A | Y | 53 |
| 4. Are work parties and scouting teams to be organized during the occupancy period? | N/A | Y | 19 |
| 5. In the more heavily populated shelters, are temporary trips outside the shelter to be in small groups on a rotated basis, in order to facilitate control? | N/A | Y | 6 |
| 6. Is the problem of attempted premature egress recognized and are plans to be made to meet this problem? | N/A | Y | 33 |

Manpower Allocation

- | | | | |
|--|-----|---|----|
| 7. Is a card file inventory of personnel and skills to be prepared to facilitate in-shelter and post-shelter assignment? | N/A | Y | 16 |
| 8. Is shelteree skills information to be fed into a central controlling agency responsible for manpower allocation in the community? | N/A | Y | 10 |
| 9. Whenever possible, are manpower allocations to be made prior to egress to allow time for any necessary training and otherwise facilitate the recovery activities? | N/A | Y | 16 |

Medical Supplies

- | | | | |
|---|-----|---|-----------|
| 10. Are plans to be formulated for the immediate acquisition and controlled distribution of drugs and other medical supplies which are available in the community during the recovery period? | N/A | Y | 45 |
| 11. Are plans to be made for the organization of existing medical facilities and personnel based on the post-attack situation? | N/A | Y | <u>33</u> |

Page Total

POST-SHELTER PLANNING (In-Shelter) (Contd.)

Water

- | | |
|---|----------------|
| <p>12. Are potential sources of water for the recovery period to be sought during scouting forays or identified from pre-emergency planning documents?</p> | N/A Y 70 |
| <p>13. If reports indicate a shortage of water or if for geographic reasons water will be in short supply, is an effective means of control to be worked out during the occupancy period?</p> | N/A Y 70 |
| <p>14. Are provisions to be made for decontamination of a community water supply as early as possible in the post-shelter period?</p> | N/A Y 70 |
| <p>15. Are sheltenees to be briefed on what the safest sources of water will be during the post-shelter period?</p> | N/A Y 61 |

Industrial Rehabilitation

- | | |
|---|---------------|
| <p>16. Are industrial rehabilitation activities to be coordinated with the recovery activities of the community as a whole?</p> | N/A Y 6 |
| <p>17. Is resource allocation for industrial rehabilitation to be considered in the light of the industry's contribution to national as well as community recovery?</p> | N/A Y 4 |

Food

- | | |
|---|----------------|
| <p>18. Are there to be plans to assure food distribution controls (rationing, etc.) during the post-shelter period?</p> | N/A Y 45 |
| <p>19. If necessary, are essential workers doing civil defense or related heavy labor to be fed separately and given highly nutritious meals and generous supplies of water?</p> | N/A Y 13 |
| <p>20. Are usable commercial and public feeding establishments to be located by early scouting parties to permit in-shelter planning for feeding and population after egress?</p> | N/A Y 10 |

Shelter Rehabilitation

- | | |
|--|----------------|
| <p>21. Are plans to be formulated and personnel assignments made for cleaning and disinfecting the shelter immediately after the occupancy period?</p> | N/A Y 13 |
|--|----------------|

Page Total

POST-SHELTER PLANNING (In-Shelter) (Contd.)

Shelter Rehabilitation (Contd.)

- | | |
|--|----------------|
| 22. Are there to be provisions for emptying and rinsing the sanitary tanks after the emergency? | N/A Y 19 |
| 23. Are the types and quantities of food, medical supplies, water, fuel, etc. necessary to re-stock the shelter to be identified in a manner so as to have the information available when re-stocking operations can be initiated? | N/A Y 13 |
| 24. Is a schedule of equipment overhaul and repair to be developed for all shelter equipment during the occupancy period to expedite this phase of shelter rehabilitation? | N/A Y 10 |

Decontamination

- | | |
|---|----------------|
| 25. For most effective use of manpower and equipment, are all decontamination efforts to be under a central control? | N/A Y 28 |
| 26. Based on the intelligence reports of the radiological monitoring teams, are the large scale decontamination efforts to be planned in detail during shelter occupancy? | N/A Y 28 |
| 27. Are tools, equipment, and instructions to be available if decontamination is the advisable post-attack plan of action? | N/A Y 45 |

Other

- | | |
|--|----------------|
| 28. Is the shelter organization to be continued into the post-shelter period as an interim government? | N/A Y 5 |
| 29. Is the administrative machinery for allocation of living quarters to be established so that it may be set in motion immediately upon shelter egress? | N/A Y 13 |
| 30. Are governmental services such as fire, police, administration, and welfare to be organized as much as possible during the shelter occupancy period so as to provide effective services upon egress? | N/A Y 19 |

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CATEGORY TOTAL _____